JETP Letters 2000 vol.72 N12, pages 616-620

Magnetic susceptibility of noninteracting fermions in a confined geometry

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Abstract

A model system of an ideal gas of neutral fermions in a confined geometry of different symmetry and size is theoretically examined. The behavior of these systems is found to exhibit qualitatively new features such as the oscillations in magnetic susceptibility with changing geometry size and particle density, indicating that the geometric confinement substantially affects the thermodynamic properties of the system. © 2000 MAIK "Nauka/Interperiodica".